

**REMARKS**

Claims 1-79 are pending in this application and claims 1-29 and 56-79 have been examined. Claims 30-55 have been withdrawn from further consideration as being drawn to nonelected subject matter. Claims 1-29 and 56-79 were rejected under 35 U.S.C. §112, first paragraph. Claim 56 was rejected under 35 U.S.C. §112, second paragraph. Claims 1-3, 5-7, 16, 20, 26, 56-58, 60-62, 71, 75-76 and 78 were variously rejected under 35 U.S.C. § 102(b). Claims 1-29 and 56-79 were provisionally rejected as allegedly being unpatentable under the judicially created doctrine of obviousness-type double patenting.

By this amendment, claims 9-13, 15, 64-68 and 70 have been canceled, claims 1, 14, 16, 56, 69, 71 and 75 have been amended and new claim 80 has been added without prejudice or disclaimer of any previously claimed subject matter. Support for the amendments and new claim can be found, *inter alia*, throughout the specification, for example, in originally filed claims 13, 14, 68, 69 and 76.

The amendments are made solely to promote prosecution without prejudice or disclaimer of any previously claimed subject matter. With respect to all amendments and cancelled claims, Applicants have not dedicated or abandoned any unclaimed subject matter and moreover have not acquiesced to any rejections and/or objections made by the Patent Office. Applicants expressly reserve the right to pursue prosecution of any presently excluded subject matter or claim embodiments in one or more future continuation and/or divisional application(s).

Applicants have carefully considered the points raised in the Office Action and believe that the Examiner's concerns have been addressed as described herein, thereby placing this case into condition for allowance.

Rejections under 35 U.S.C. §112, first paragraph

Claims 1-29 and 56-79 were rejected under 35 U.S.C. §112, first paragraph, as allegedly containing subject matter which was not described in the specification in such a way as to reasonably convey to one skilled in the relevant art that the inventor(s), at the time the application was filed, had possession of the claimed invention. Applicants respectfully traverse this ground for rejection.

The present invention is directed to complexes which comprise an immunomodulatory polynucleotide (IMP) linked to a nonbiodegradable microcarrier (MC), wherein the polynucleotide comprises an immunostimulatory sequence (ISS) and the ISS comprises the sequence 5'-CG-3'. As claimed, the invention is directed to complexes in which the 5'-CG-3'-containing polynucleotide is 7 nucleotides in length and to complexes in which the ISS is selected from specific 5'-CG-3'-containing sequences.

The Examiner asserts that the specification and claims "do not indicate what distinguishing attributes are concisely shared by the members of the genus" and that "the disclosure fails to describe the common attributes or characteristics that identify members of the genus." The Examiner also asserts that "the disclosure fails to provide a representative number of species to describe the genus." Office Action, pages 2-3. Applicants respectfully disagree with these assertions.

The common attribute or characteristic concisely identifying members of the genus of IMP/MC of the claimed invention is that the ISS (or polynucleotide) of the complex includes the sequence 5'-C-G-3'. The specification states that the ISS of the invention "can be any length greater than 6 bases or base pairs and generally comprises the sequence 5'-cytosine, guanine-3'" (for example, at page 19, lines 30-31). That this is the common attribute of the genus is reflected

not only in this statement but also in the structure of the claims. In the independent and broadest claims (claims 1, 20 and 56), the ISS or the polynucleotide comprises at least the sequence 5'-C-G-3'. Depending from claim 20, for example, are claims in which the polynucleotide comprises 5'-T-C-G-3' or consists of the sequence 5'-TCGX<sub>1</sub>X<sub>2</sub>X<sub>3</sub>X<sub>4</sub>-3' or the sequence 5'-X<sub>1</sub>TCGX<sub>2</sub>X<sub>3</sub>X<sub>4</sub>-3', wherein X<sub>1</sub>, X<sub>2</sub>, X<sub>3</sub>, X<sub>4</sub> are nucleotides. As can be seen, the sequence 5'-C-G-3' is an essential feature of any IMP/MC of the claimed invention.

A description as filed is presumed to be adequate, unless or until sufficient evidence or reasoning to the contrary has been presented by the examiner to rebut the presumption. See, e.g., *In re Marzocchi* 439 F.2d 220, 224, 169 USPQ 367, 370 (CCPA 1971); MPEP §2163.04. Applicants respectfully submit that the Examiner has not met the initial burden of presenting by a preponderance of evidence why a person skilled in the art would not recognize in the instant disclosure a description of the invention defined in the claims.

Thus, Applicants respectfully submit that a *prima facie* case for lack of written description has not been established and that the written description requirement has been met.

Accordingly, Applicants respectfully request reconsideration and withdrawal of the rejections under 35 U.S.C. § 112, first paragraph.

Rejection under 35 U.S.C. §112, second paragraph

Claim 56 was rejected under 35 U.S.C. §112, second paragraph, as allegedly being indefinite for failing to particularly point out and distinctly claim the subject matter which Applicant regards as the invention. Applicants respectfully traverse this rejection but have attempted to respond to the concerns of the Examiner in order to enhance clarity and to facilitate disposition of

the present case. Accordingly, Applicants respectfully request reconsideration and withdrawal of the rejection under 35 U.S.C. §112, second paragraph.

Rejection under 35 U.S.C. §102(b)

Claims 1-2, 5-7, 16, 20, 26, 56-57, 60-62, 71, 75-76 and 78 were rejected under 35 U.S.C. §102(b) as allegedly being anticipated by Uhlen, U.S. Pat. No. 5,629,158. Claims 1, 3, 56 and 58 were rejected under 35 U.S.C. §102(b) as allegedly being anticipated by Sonehara *et al.* (1996, *J. Interferon and Cytokine Res.* 16:799-803; "Sonehara"). Applicants respectfully traverse these rejections.

As amended, the claimed invention is directed to a complexes comprising an ISS-containing immunomodulatory polynucleotide (IMP) linked to a non-biodegradable microcarrier (MC), wherein the ISS comprises a sequence selected from the group consisting of 5'-TCGAAAA-3', 5'-TCGCCCC-3', 5'-TCGGGGG-3', 5'-TCGTTTT-3' and 5'-TCGTCGX<sub>1</sub>-3', wherein X<sub>1</sub> is a nucleotide, or wherein the polynucleotide is 7 nucleotides in length. The claimed invention is also directed to kits and compositions comprising the IMP/MC complexes.

Uhlen describes a method and kit for use in diagnosis of a medical condition involving identification of a specific DNA sequence. As part of this diagnostic method, the target DNA is amplified and then immobilized on a solid support where the target DNA can be subjected to further *in vitro* operations such as further PCR amplification, DNA sequence determination and *in vitro* mutagenesis procedures. Uhlen, Column 5, lines 20-51. Thus, the teachings of Uhlen involve the use of a DNA-support complex in diagnostic or research procedures performed *in vitro*. Uhlen does not describe the polynucleotides as claimed nor the use of the complexes for immunomodulation of an individual.

Sonehara describes hexamer palindromic oligonucleotides encapsulated in cationic liposomes made with Lipofectin® reagent (page 799, right column, and page 800, left column). Sonehara does not describe the polynucleotides as claimed and does not describe a complex in which an immunomodulatory polynucleotide (IMP) is linked to a non-biodegradable microcarrier.

For a claim to be anticipated by a reference, the reference must teach each and every element of the claim. Neither of the cited references teach ISS-containing polynucleotides linked to a nonbiodegradable microcarrier, wherein the ISS is selected from the group consisting of 5'-TCGAAAA-3', 5'-TCGCCCC-3', 5'-TCGGGGG-3', 5'-TCGTTTT-3' and 5'-TCGTCGX<sub>1</sub>-3', wherein X<sub>1</sub> is a nucleotide. Neither of the cited references teach an IMP/MC complex, wherein the microcarrier is a non-biodegradable microcarrier and wherein the polynucleotide is 7 nucleotides in length. Thus, Applicants respectfully submit that neither Uhlen or Sonehara anticipate the claimed invention.

Accordingly, Applicants respectfully request reconsideration and withdrawal of the rejection under 35 U.S.C. §102(b).

#### Rejections Under Obviousness-Type Double Patenting

Claims 1-29 and 56-79 were provisionally rejected under the judicially created doctrine of obviousness-type double patenting as allegedly being unpatentable over claims 1-11 and 56-66 of copending application No. 09/802,376 and claims 1-11 and 56-66 of application No. 09/802,375.

Applicants thank the Examiner for bringing the co-pending applications to Applicants' attention. Since this is a provisional obviousness-type double patenting rejection and there are no issued claims, there is nothing to disclaim at this time and this rejection is moot.

**CONCLUSION**

Applicants believe that all issues raised in the Office Action have been properly addressed in this response. Accordingly, reconsideration and allowance of the pending claims is respectfully requested. If the Examiner feels that a telephone interview would serve to facilitate resolution of any outstanding issues, the Examiner is encouraged to contact Applicants' representative at the telephone number below.

In the unlikely event that the transmittal letter is separated from this document and the Patent Office determines that an extension and/or other relief is required, Applicants petition for any required relief including extensions of time and authorize the Assistant Commissioner to charge the cost of such petitions and/or other fees due in connection with the filing of this document to **Deposit Account No. 03-1952** referencing docket no. 377882001720.

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